

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: CRIS RODRIGUEZ Examiner #: 73164 Date: 11/12/02  
Art Unit: 3763 Phone Number 308-2194 Serial Number: 09/880,241  
Mail Box and Bldg/Room Location: 3D25 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*  
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: 4/12/96

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

*method for treating an aneurysm*

*- injecting a ~~small~~ crosslinking solution  
such as an aldehyde, glutaraldehyde or  
carbodiimide*

## STAFF USE ONLY

Searcher: JEANNE HARRIGAN

Searcher Phone #: 305-5934

Searcher Location: CP2-JC08

Date Searcher Picked Up: 11-18

Date Completed: 11-18

Searcher Prep & Review Time: 127

Clerical Prep Time: \_\_\_\_\_

Online Time: 38

## Type of Search

NA Sequence (#) \_\_\_\_\_

AA Sequence (#) \_\_\_\_\_

Structure (#) \_\_\_\_\_

Bibliographic ☒

Litigation ☒

Fulltext ☒

Patent Family \_\_\_\_\_

Other \_\_\_\_\_

## Vendors and cost where applicable

STN ☒

Dialog ☒

Questel/Orbit \_\_\_\_\_

Dr.Link \_\_\_\_\_

Lexis/Nexis \_\_\_\_\_

Sequence Systems \_\_\_\_\_

WWW/Internet \_\_\_\_\_

Other (specify) \_\_\_\_\_

November 18, 2002

TO: Cris Rodriguez, Art Unit 3763  
CP2, Room 3-D-25

FROM: Jeanne Horrigan, EIC-3700 *JH*

SUBJECT: Search Results for Serial #09/880241

Attached are the search results for the "Method and Apparatus for Treating Aneurysms," including results of prior art and inventor searches in foreign patent databases, and prior art searches in medical, pharmaceutical, chemical, and general sci/tech non-patent databases.

In the results, a highlighted line marks the end of a search, including the search strategy, in a particular set of databases and the beginning of a new search in a different set of databases.

I tagged the items that seemed to me to be most relevant, but **I suggest that you review all of the results.**

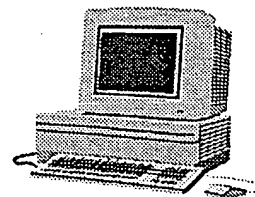
Also attached is a "*Search Results Feedback Form*." Your feedback will help enhance our search services.

I hope these results are useful. Please let me know if you would like me to expand or modify the search or if you have any questions.

# EIC3700/2900

## Search Results

### Feedback Form (Optional)



Scientific & Technical Information Center

The search results generated for your recent request are attached. If you have any questions or comments (compliments or complaints) about the scope or the results of the search, please *contact the EIC searcher who performed your search (or either of us)*:

John Sims, Team Leader, 308-4836, CP2-2C08  
or Jeanne Horrigan, Searcher, 305-5934

---

#### *Voluntary Results Feedback Form*

➤ I am an examiner in Workgroup:

Example:

➤ Relevant prior art found, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

*Types of relevant prior art found:*

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art not found:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Search results were not useful in determining patentability or understanding the invention.

Other Comments:

3/26, TI/1 (Item 1 from file: 350)  
DIALOG(R) File 350: Derwent WPIX  
(c) 2002 Thomson Derwent. All rts. reserv.  
014154372

WPI Acc No: 2001-638591/200173  
Stent and graft device for treating aneurysmal wall of bodily vessel,  
contains crosslinking solution pumped out through lumen and port toward  
proximal end of catheter

3/26, TI/2 (Item 2 from file: 350)  
DIALOG(R) File 350: Derwent WPIX  
(c) 2002 Thomson Derwent. All rts. reserv.  
014131524

WPI Acc No: 2001-615735/200171  
Reduced diameter flexible stent deployment catheter, slidably inserts  
insertion sheath in inner tube to state in which it is not restrained at  
any location in inner tube during use of insertion sheath

3/26, TI/3 (Item 3 from file: 350)  
DIALOG(R) File 350: Derwent WPIX  
(c) 2002 Thomson Derwent. All rts. reserv.  
013759410

WPI Acc No: 2001-243622/200125  
Bifurcated graft for branched vascular passageway in curing aortic  
aneurysms, has tube with split in center, forming branches in contact  
with passageway branches

3/26, TI/4 (Item 4 from file: 350)  
DIALOG(R) File 350: Derwent WPIX  
(c) 2002 Thomson Derwent. All rts. reserv.  
012784925

WPI Acc No: 1999-591151/199950  
Reduced friction graft and stent or graft deployment catheter for  
repairing defects in arteries and other lumens

3/26, TI/5 (Item 5 from file: 350)  
DIALOG(R) File 350: Derwent WPIX  
(c) 2002 Thomson Derwent. All rts. reserv.  
012520213

WPI Acc No: 1999-326319/199927  
Invertible bifurcated, bilateral intra-aortic bypass stent or graft for  
intraluminal delivery, and deployment method

5/7/1 (Item 1 from file: 350)  
DIALOG(R) File 350: Derwent WPIX  
(c) 2002 Thomson Derwent. All rts. reserv.  
014154372 \*\*Image available\*\*

WPI Acc No: 2001-638591/200173  
Stent and graft device for treating aneurysmal wall of bodily vessel,  
contains crosslinking solution pumped out through lumen and port toward  
proximal end of catheter

Patent Assignee: LESCHINSKY B (LESC-I)

Inventor: LESCHINSKY B

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20010029349	A1	20011011	US 96631337	A	19960412	200173 B

US 98165333 A 19981001  
US 2001880241 A 20010613

Priority Applications (No Type Date): US 2001880241 A 20010613; US 96631337  
A 19960412; US 98165333 A 19981001

Patent Details:

Patent No	Kind	Lan	Pg	Main	IPC	Filing	Notes
US 20010029349	A1		13	A61M-029/00		Cont of application	US 96631337
						CIP of application	US 98165333

Abstract (Basic): US 20010029349 A1

NOVELTY - Stent and graft device has a catheter (31B) with a longitudinal axis and lumen(s). A distal end of the catheter is connected to a crosslinking solution. An infusion and vacuum port pumps out crosslinking solution through the lumen and port toward the proximal end of the catheter for crosslinking at least a portion of the vessel.

USE - Used for treating an aneurysmal wall of a bodily vessel (claimed).

ADVANTAGE - The device provides crosslinking solution that strengthens or toughens the aneurysmal wall by changing the nature of the wall, i.e. crosslinking the collagen in the wall.

DESCRIPTION OF DRAWING(S) - The figure is a longitudinal cross-sectional view of the catheter.

Catheter (31B)

Occlusion balloons (34, 35)

pp; 13 DwgNo 6/7

Derwent Class: B05; B07; P34

International Patent Class (Main): A61M-029/00

File 350:Derwent WPIX 1963-2002/UD,UM &UP=200273

File 344:Chinese Patents Abs Aug 1985-2002/Oct

File 347:JAPIO Oct 1976-2002/Jul(Updated 021104)

File 371:French Patents 1961-2002/BOPI 200209

Set	Items	Description
S1	32	AU='LESCHINSKY':AU='LESCHINSKY BORIS'
S2	1280	ANEURYSM?
<b>S3</b>	<b>5</b>	<b>S1 AND S2</b>
S4	102281	ALDEHYDE?
<b>S5</b>	<b>1</b>	<b>S1 AND S4</b>

4/3,AB/1 (Item 1 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

(c) 2002 WIPO/Univentio. All rts. reserv.

00518438

REDUCED FRICTION GRAFT AND STENT/GRAFT DEPLOYMENT CATHETER

GREFFON A FROTTEMENT REDUIT ET CATHETER POUR DEPLOIEMENT DE STENT OU  
GREFFON

Patent Applicant/Assignee:

DATASCOPE INVESTMENT CORP,  
LESCHINSKY Boris,  
AHARI Frederick,

Inventor(s):

LESCHINSKY Boris ,  
AHARI Frederick

Patent and Priority Information (Country, Number, Date):

Patent: WO 9949790 A1 19991007

Application: WO 99US7125 19990330 (PCT/WO US9907125)

Priority Application: US 9850148 19980330

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES  
FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD  
MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US  
UZ VN YU ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT  
BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA  
GN GW ML MR NE SN TD TG

Publication Language: English

Fulltext Word Count: 4598

English Abstract

A low friction stent/graft (30) deployment catheter comprising a low friction graft having an outer coating (90) of a biocompatible lubricous material, such as Dow Corning's medical silicone (360), and a delivery sheath (42) having an inner coating (80) of a biocompatible lubricous material, such as Dow Corning's MDX4-4159.

File 348:EUROPEAN PATENTS 1978-2002/Nov W02

File 349:PCT FULLTEXT 1979-2002/UB=20021114,UT=20021107

Set Items Description

S1 0 PN=US 20010029349

S2 18 AU='LESCHINSKY BORIS':AU='LESCHINSKY BORIS C O DATASCOPE I-  
NVESTMENT CORP'

S3 164541 ANEURYSM? OR ALDEHYDE? OR CROSS()LINK???? OR CROSSLINK????

S4 1 S2 AND S3

4/6/1 (Item 1 from file: 155)

07499299 92900985 PMID: 10171158

Centrifugal blood pumps--a brief analysis: development of new designs.  
1991

4/6/2 (Item 1 from file: 5)

13392838 BIOSIS NO.: 200200021659

Bubble-free connector for liquid carrying tubing  
1995

4/6/3 (Item 2 from file: 5)

13391754 BIOSIS NO.: 200200020575

Single roller blood pump and oxygenator system  
1995

4/6/4 (Item 1 from file: 73)

00233363 EMBASE No: 1975005598

The fibroglial component of astrocytomas (Russian)  
1974

File 155:MEDLINE(R) 1966-2002/Nov W2

File 5:Biosis Previews(R) 1969-2002/Nov W2

File 73:EMBASE 1974-2002/Nov W2

File 34:SciSearch(R) Cited Ref Sci 1990-2002/Nov W3

File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec

Set Items Description

S1 25 AU='LESCHINSKY B':AU='LESCHINSKY BORIS'

S2 19 S1/2002 OR S1/2001 OR S1/2000 OR S1/1999 OR S1/1998 OR S1/-  
1997

S3 6 S1 NOT S2

S4 4 RD (unique items)

L26 ANSWER 1 OF 37 MEDLINE  
 AN 2002620467 IN-PROCESS  
 TI Preparation and biocompatibility of tissue-engineered scaffold materials based on collagen.

L26 ANSWER 2 OF 37 HCAPLUS COPYRIGHT 2002 ACS  
 AN 2001:319775 HCAPLUS  
 DN 134:316164  
 TI Vessel embolic material comprising hydrogel and therapy with the use thereof

L26 ANSWER 3 OF 37 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 1  
 AN 2001:378767 HCAPLUS  
 DN 135:150416  
 TI Factor XIII of blood coagulation as a nuclear \*\*\*crosslinking\*\*\* enzyme

L26 ANSWER 4 OF 37 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 2  
 AN 2001:312356 HCAPLUS  
 DN 135:157631  
 TI The role of \*\*\*crosslinking\*\*\* in modification of the immune response elicited against xenogenic vascular acellular matrixes

L26 ANSWER 5 OF 37 HCAPLUS COPYRIGHT 2002 ACS  
 AN 2000:104875 HCAPLUS  
 DN 132:255935  
 TI Blood compatibility of polyurethane-poly(vinyl alcohol) polymer blends

L26 ANSWER 6 OF 37 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V. DUPLICATE 3  
 AN 2000040578 EMBASE  
 TI Modified human ureter and human saphenous vein grafts tanned with a polyepoxy compound or \*\*\*glutaraldehyde\*\*\* for small-diameter arterial substitution: An experimental study.

L26 ANSWER 7 OF 37 HCAPLUS COPYRIGHT 2002 ACS  
 AN 1999:722931 HCAPLUS  
 DN 131:342013  
 TI Hydrogels containing radiopaque agent and drugs for the treatment of \*\*\*aneurysms\*\*\*

L26 ANSWER 8 OF 37 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 4  
 AN 1998:662220 HCAPLUS  
 DN 129:298199  
 TI Effect of \*\*\*phenylglyoxal\*\*\* -modified .alpha.2-antiplasmin on urokinase-induced fibrinolysis

L26 ANSWER 9 OF 37 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
 AN 1998321692 EMBASE  
 TI Interaction of the A1 subunit of factor VIIa and the serine protease domain of factor X identified by zero-length \*\*\*cross\*\*\* -  
 \*\*\*linking\*\*\* .

L26 ANSWER 10 OF 37 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
 AN 97349216 EMBASE  
 TI Interacting regions in the A1 and A2 subunits of factor VIIa identified by zero-length \*\*\*cross\*\*\* - \*\*\*linking\*\*\* .

L26 ANSWER 11 OF 37 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
 AN 97040312 EMBASE  
 TI Localization of a factor X interactive site in the A1 subunit of factor  
 VIIla.

L26 ANSWER 12 OF 37 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
 AN 97139837 EMBASE  
 TI Covalent linkage of recombinant hirudin to poly(ethylene terephthalate)  
 (Dacron): Creation of a novel antithrombin surface.

L26 ANSWER 13 OF 37 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
 AN 1997:14781 BIOSIS  
 TI Albumin as a sealant for a polyester vascular prosthesis: Its impact on  
 the healing sequence in humans.

L26 ANSWER 14 OF 37 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
 AN 96345182 EMBASE  
 TI Albumin-impregnated polyester vascular prosthesis for abdominal aortic  
 surgery: An improvement?.

L26 ANSWER 15 OF 37 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
 AN 95119978 EMBASE  
 TI Poly ethylene heparin immobilized chitosan-polyethylene glycol  
 interpenetrating network: Antithrombogenicity.

L26 ANSWER 16 OF 37 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
 AN 94103992 EMBASE  
 TI Drug release through fibrinolysis of antibiotic-bound fibrin.

L26 ANSWER 17 OF 37 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 5  
 AN 1994:173409 HCAPLUS  
 DN 120:173409  
 TI Immobilization of poly(ethylene glycol) onto a poly(vinyl alcohol)  
 hydrogel: 2. Evaluation of thrombogenicity

L26 ANSWER 18 OF 37 MEDLINE  
 AN 92287778 MEDLINE  
 TI Comparative evaluation of the elasticity and flexibility of bioimpregnated  
 knitted grafts.

L26 ANSWER 19 OF 37 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
 AN 92105160 EMBASE  
 TI Physical and biochemical characterization of five commercial resins for  
 immunoaffinity purification of factor IX.

L26 ANSWER 20 OF 37 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V. DUPLICATE 6  
 AN 92079338 EMBASE  
 TI Results with cryopreserved and \*\*\*glutaraldehyde\*\*\* -preserved  
 allograft trachea as an arterial conduit.

L26 ANSWER 21 OF 37 HCAPLUS COPYRIGHT 2002 ACS  
 AN 1993:11675 HCAPLUS  
 DN 118:11675  
 TI Chemically modified collagenous amniotic layer as a wound dressing  
 material

L26 ANSWER 22 OF 37 MEDLINE DUPLICATE 7



AN 88264724 MEDLINE  
 TI \*\*\*Glutaraldehyde\*\*\* release from vascular prostheses of biologic origin.

L26 ANSWER 23 OF 37 HCAPLUS COPYRIGHT 2002 ACS  
 AN 1986:230522 HCAPLUS  
 DN 104:230522  
 TI Adapting soluble bone protein for use in stimulating osteoinduction

L26 ANSWER 24 OF 37 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 8  
 AN 1986:18323 HCAPLUS  
 DN 104:18323  
 TI The borohydride-reducible compounds of human aortic elastin. Demonstration of a new cyclic amino acid in alkali hydrolysate, and changes with age and in patients with annulo-aortic ectasia including one with Marfan syndrome

L26 ANSWER 25 OF 37 MEDLINE DUPLICATE 9  
 AN 84103349 MEDLINE  
 TI Biodegradation and \*\*\*aneurysm\*\*\* formation in umbilical vein grafts. Observations and a realistic strategy.

L26 ANSWER 26 OF 37 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
 AN 83045225 EMBASE  
 TI Factor VIII-induced superaggregation of human platelets.

L26 ANSWER 27 OF 37 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V. DUPLICATE 10  
 AN 82047844 EMBASE  
 TI Morphologic and biophysical assessment of long term human umbilical cord vein implants used as vascular conduits.

L26 ANSWER 28 OF 37 HCAPLUS COPYRIGHT 2002 ACS  
 AN 1981:162794 HCAPLUS  
 DN 94:162794  
 TI Biologically compatible materials by surface immobilization of apyrase

L26 ANSWER 29 OF 37 HCAPLUS COPYRIGHT 2002 ACS  
 AN 1980:465443 HCAPLUS  
 DN 93:65443  
 TI Removal of heparin from blood plasma samples using an insoluble protamine reaction product

L26 ANSWER 30 OF 37 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
 AN 79251333 EMBASE  
 TI \*\*\*Glutaraldehyde\*\*\* -stabilized umbilical vein prosthesis for revascularization of the legs. Three year results by life table analysis.

L26 ANSWER 31 OF 37 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
 AN 78276540 EMBASE  
 TI Porcine Willebrand factor: a population of multimers.

L26 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2002 ACS  
 AN 1978:94777 HCAPLUS  
 DN 88:94777  
 TI Gelatin-resorcin- \*\*\*formaldehyde\*\*\* adhesive in vascular surgery

L26 ANSWER 33 OF 37 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 11

AN 1974:93864 HCAPLUS  
 DN 80:93864  
 TI Sex-linked defect in the \*\*\*crosslinking\*\*\* of collagen and elastin associated with the mottled locus in mice

L26 ANSWER 34 OF 37 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
 AN 75042956 EMBASE  
 TI Lathyrism: A review.

L26 ANSWER 35 OF 37 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
 AN 74009322 EMBASE  
 TI Plasma kallikrein kinin system in nonmammalian blood: evolutionary aspects.

L26 ANSWER 36 OF 37 HCAPLUS COPYRIGHT 2002 ACS  
 AN 1973:476472 HCAPLUS  
 DN 79:76472  
 TI Application of an insoluble Hageman factor complex to kinin research

L26 ANSWER 37 OF 37 HCAPLUS COPYRIGHT 2002 ACS  
 AN 1969:462044 HCAPLUS  
 DN 71:62044  
 TI Antithrombogenic properties of modified polymers in cardiovascular surgery

L29 ANSWER 1 OF 15 HCAPLUS COPYRIGHT 2002 ACS  
 AN 2001:319775 HCAPLUS  
 DN 134:316164  
 TI Vessel embolic material comprising hydrogel and therapy with the use thereof

L29 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 1  
 AN 2001:312356 HCAPLUS  
 DN 135:157631  
 TI The role of \*\*\*crosslinking\*\*\* in modification of the immune response elicited against xenogenic vascular acellular matrixes

L29 ANSWER 3 OF 15 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.DUPLICATE 2  
 AN 2000040578 EMBASE  
 TI Modified human ureter and human saphenous vein grafts tanned with a polyepoxy compound or \*\*\*glutaraldehyde\*\*\* for small-diameter arterial substitution: An experimental study.

L29 ANSWER 5 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
 AN 1997:14781 BIOSIS  
 TI Albumin as a sealant for a polyester vascular prosthesis: Its impact on the healing sequence in humans.

L29 ANSWER 6 OF 15 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
 AN 96345182 EMBASE  
 TI Albumin-impregnated polyester vascular prosthesis for abdominal aortic surgery: An improvement?.

L29 ANSWER 7 OF 15 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.DUPLICATE 3  
 AN 92079338 EMBASE  
 TI Results with cryopreserved and \*\*\*glutaraldehyde\*\*\* -preserved allograft trachea as an arterial conduit.

L29 ANSWER 9 OF 15 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 5  
 AN 1986:18323 HCAPLUS  
 DN 104:18323  
 TI The borohydride-reducible compounds of human aortic elastin.  
 Demonstration of a new cyclic amino acid in alkali hydrolysate, and  
 changes with age and in patients with annulo-aortic ectasia including one  
 with Marfan syndrome

L29 ANSWER 11 OF 15 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.DUPLICATE 7  
 AN 82047844 EMBASE  
 TI Morphologic and biophysical assessment of long term human umbilical cord  
 vein implants used as vascular conduits.

L29 ANSWER 12 OF 15 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
 AN 79251333 EMBASE  
 TI \*\*\*Glutaraldehyde\*\*\* -stabilized umbilical vein prosthesis for  
 revascularization of the legs. Three year results by life table analysis.

L29 ANSWER 13 OF 15 HCAPLUS COPYRIGHT 2002 ACS  
 AN 1978:94777 HCAPLUS  
 DN 88:94777  
 TI Gelatin-resorcin- \*\*\*formaldehyde\*\*\* adhesive in vascular surgery

L29 ANSWER 14 OF 15 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 8  
 AN 1974:93864 HCAPLUS  
 DN 80:93864  
 TI Sex-linked defect in the \*\*\*crosslinking\*\*\* of collagen and elastin  
 associated with the mottled locus in mice

L29 ANSWER 15 OF 15 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
 AN 75042956 EMBASE  
 TI Lathyrism: A review.

L29 ANSWER 4 OF 15 HCAPLUS COPYRIGHT 2002 ACS  
 ACCESSION NUMBER: 1999:722931 HCAPLUS  
 DOCUMENT NUMBER: 131:342013  
**TITLE:** **Hydrogels containing radiopaque agent and drugs for  
 the treatment of \*\*\*aneurysms\*\*\***  
 INVENTOR(S): Derbin, J. Todd; Ken, Christopher G. M.  
 PATENT ASSIGNEE(S): Micrus Corporation, USA  
 SOURCE: PCT Int. Appl., 15 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9956783	A1	19991111	WO 1999-US9492	19990429
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK,  
 ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG,  
 CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
 AU 9936734 A1 19991123 AU 1999-36734 19990429  
 EP 1100541 A1 20010523 EP 1999-918935 19990429  
 R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE, IE  
 JP 2002531379 T2 20020924 JP 2000-546807 19990429  
 PRIORITY APPLN. INFO.: US 1998-71250 A 19980501  
 WO 1999-US9492 W 19990429

AB The hydrogel for the treatment of \*\*\*aneurysms\*\*\* acts as a carrier  
 for both a radiopaque agent allowing the hydrogel to be visualized under  
 fluoroscopy and a therapeutic agent such as one or more human growth  
 factors. The hydrogel is delivered through a catheter into the  
 \*\*\*aneurysm\*\*\*, where the hydrogel becomes more viscous upon reaching  
 body temp., or upon exposure to bodily fluids, to block blood flow into  
 the \*\*\*aneurysm\*\*\*. In addn. to stopping blood flow into the  
 \*\*\*aneurysm\*\*\*, the delivery of human growth factors to the  
 \*\*\*aneurysm\*\*\* site promotes the growth of a cellular layer across the  
 neck of the \*\*\*aneurysm\*\*\*. The hydrogel may be of a type that  
 dissolves over time or one which remains as a permanent occlusive agent  
 within the \*\*\*aneurysm\*\*\*. The radiopaque material that is  
 incorporated into the hydrogel of is preferably fine particles of a  
 selected radiopaque metal, such as gold, platinum, tantalum or the like.

IC ICM A61K047-30  
 ICS A61K047-32; A61K047-34; A61K047-36; A61K047-38; A61K038-18;  
 A61K038-20; A61K039-395; A61K033-24; A61K047-02; A61K038-18;  
 A61K033-24; A61K038-20; A61K033-24; A61K039-395; A61K033-24

CC 63-6 (Pharmaceuticals)  
 Section cross-reference(s): 1

ST \*\*\*aneurysms\*\*\* hydrogel radiopaque drug

IT Polymers, biological studies  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (biodegradable; hydrogels contg. radiopaque agent and drugs for  
 treatment of \*\*\*aneurysms\*\*\* )

IT Polyesters, biological studies  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (caprolactone-based; hydrogels contg. radiopaque agent and drugs for  
 treatment of \*\*\*aneurysms\*\*\* )

IT Medical goods  
 (catheters; hydrogels contg. radiopaque agent and drugs for treatment  
 of \*\*\*aneurysms\*\*\* )

IT Imaging agents  
 (contrast, radiog.; hydrogels contg. radiopaque agent and drugs for  
 treatment of \*\*\*aneurysms\*\*\* )

IT Collagens, biological studies  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 ( \*\*\*crosslinked\*\*\*, acrylate-; hydrogels contg. radiopaque agent  
 and drugs for treatment of \*\*\*aneurysms\*\*\* )

IT Polyesters, biological studies  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (dilactone-based; hydrogels contg. radiopaque agent and drugs for  
 treatment of \*\*\*aneurysms\*\*\* )

IT Drug delivery systems  
 (gels; hydrogels contg. radiopaque agent and drugs for treatment of  
 \*\*\*aneurysms\*\*\* )

IT \*\*\*Aneurysm\*\*\*  
 Drugs

(hydrogels contg. radiopaque agent and drugs for treatment of  
 \*\*\*aneurysms\*\*\* )

IT Acrylic polymers, biological studies  
 Albumins, biological studies  
 Collagens, biological studies  
 Fibrins  
 Fibronectins  
 Gelatins, biological studies  
 Growth factors, animal  
 Interleukins  
 Mucopolysaccharides, biological studies  
 Ovalbumin  
 Platelet-derived growth factors  
 Polyanhydrides  
 Polyesters, biological studies  
 Polymers, biological studies  
 Polyoxyalkylenes, biological studies  
 Polyphosphazenes  
 Polysaccharides, biological studies  
 Proteins, general, biological studies  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (hydrogels contg. radiopaque agent and drugs for treatment of  
 \*\*\*aneurysms\*\*\* )

IT Drug delivery systems  
 (hydrogels; hydrogels contg. radiopaque agent and drugs for treatment  
 of \*\*\*aneurysms\*\*\* )

IT Polyesters, biological studies  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (lactic acid-based; hydrogels contg. radiopaque agent and drugs for  
 treatment of \*\*\*aneurysms\*\*\* )

IT Antibodies  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (monoclonal; hydrogels contg. radiopaque agent and drugs for treatment  
 of \*\*\*aneurysms\*\*\* )

IT Polyethers, biological studies  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (ortho ester group-contg.; hydrogels contg. radiopaque agent and drugs  
 for treatment of \*\*\*aneurysms\*\*\* )

IT Polyoxyalkylenes, biological studies  
 Polyoxyalkylenes, biological studies  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (polyester-; hydrogels contg. radiopaque agent and drugs for treatment  
 of \*\*\*aneurysms\*\*\* )

IT Polyesters, biological studies  
 Polyesters, biological studies  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (polyoxyalkylene-; hydrogels contg. radiopaque agent and drugs for  
 treatment of \*\*\*aneurysms\*\*\* )

IT Transforming growth factors  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (.beta.-; hydrogels contg. radiopaque agent and drugs for treatment of  
 \*\*\*aneurysms\*\*\* )

IT 113676-97-4  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (di- or triblock; hydrogels contg. radiopaque agent and drugs for  
 treatment of \*\*\*aneurysms\*\*\* )

IT 79-10-7D, Acrylic acid, esters, polymers 79-41-4D, MethAcrylic acid,

esters, polymers 1309-37-1, Iron oxide (Fe<sub>2</sub>O<sub>3</sub>), biological studies  
 1344-28-1, Aluminum oxide (Al<sub>2</sub>O<sub>3</sub>), biological studies 7440-06-4,  
 Platinum, biological studies 7440-25-7, Tantalum, biological studies  
 7440-57-5, Gold, biological studies 7631-86-9, Silica, biological  
 studies 9000-69-5, Pectin 9002-18-0, Agar 9002-89-5, Poly(vinyl  
 alcohol) 9003-39-8, Polyvinylpyrrolidone 9003-53-6, Polystyrene  
 9004-32-4, Carboxymethyl cellulose sodium salt 9004-34-6D, Cellulose,  
 derivs., biological studies 9004-54-0, Dextran, biological studies  
 9004-61-9, Hyaluronic acid 9005-25-8, Starch, biological studies  
 9005-32-7, Alginic acid 9005-49-6, Heparin, biological studies  
 9007-28-7, Chondroitin sulfate 9050-30-0, Heparan sulfate 24980-41-4,  
 Poly(.epsilon.-caprolactone) 25068-14-8, Poly( \*\*\*acrolein\*\*\* )  
 25248-42-4, Poly[oxy(1-oxo-1,6-hexanediyl)] 25322-68-3 25805-17-8,  
 Polyethyloxazoline 26009-03-0, Poly(glycolic acid) 26023-30-3,  
 Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)] 26100-51-6, Poly(lactic acid)  
 26124-68-5, Poly(glycolic acid) 26161-42-2 26354-94-9,  
 Poly(.delta.-valerolactone) 26499-05-8, Poly[oxy(1-oxo-1,5-pentanediyl)]  
 26780-50-7, Glycolide-lactide copolymer 26811-96-1, Poly(L-lactic acid)  
 28728-97-4, Poly(.gamma.-butyrolactone), SRU 29223-92-5 31213-03-3,  
 Poly(.gamma.-butyrolactone) 31621-87-1, Poly(dioxanone) 106392-12-5,  
 Polyethylene glycol-polypropylene glycol block copolymer  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (hydrogels contg. radiopaque agent and drugs for treatment of  
 \*\*\*aneurysms\*\*\* )

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 8 OF 15 MEDLINE DUPLICATE 4  
 ACCESSION NUMBER: 88264724 MEDLINE  
 DOCUMENT NUMBER: 88264724 PubMed ID: 3133800  
**TITLE: \*\*\*Glutaraldehyde\*\*\* release from vascular prostheses  
 of biologic origin.**  
 AUTHOR: Wiebe D; Megerman J; L'Italien G J; Abbott W M  
 CORPORATE SOURCE: Vascular Research Laboratory, Massachusetts General  
 Hospital, Boston, Mass. 02114.  
 CONTRACT NUMBER: HL34786 (NHLBI)  
 SOURCE: SURGERY, (1988 Jul) 104 (1) 26-33.  
 Journal code: 0417347. ISSN: 0039-6060.  
 PUB. COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals  
 ENTRY MONTH: 198808  
 ENTRY DATE: Entered STN: 19900308  
 Last Updated on STN: 19970203  
 Entered Medline: 19880804

AB The inhibition of growth by adult human venous endothelial cells in  
 culture forms the basis of a sensitive assay of \*\*\*glutaraldehyde\*\*\*  
 (GA) concentration, valid between 0 and 5 parts per million. This  
 cytotoxicity assay was used to measure residual (unbound) GA in commercial  
 vascular prostheses of biologic origin following manufacturer-recommended  
 rinsing procedures, from which as much as 13.8 ppm GA per gram of tissue  
 per 24 hours continued to be released after 1 month. A brief (1 hour)  
 exposure of cultured endothelial cells to 2 ppm GA delayed growth, while  
 continuous exposure to 4 ppm totally prevented growth for at least 12  
 days. Endothelial cells exposed to GA demonstrated a reduced efficiency of  
 attachment to standard test surfaces, although prior GA treatment of these

surfaces was not detrimental to subsequent cell attachment. ~~GA release~~  
from vascular prostheses may contribute to their lack of endothelial cell  
coverage in human implants and may be indicative of collagen \*\*\*cross\*\*\*  
- \*\*\*link\*\*\* instability. If so, in vitro cytotoxicity may be helpful  
in identifying the potential for \*\*\*aneurysm\*\*\* formation in preserved  
biologic grafts.

CT Check Tags: Human; Support, U.S. Gov't, P.H.S.  
\*Aldehydes: TO, toxicity  
\*Bioprosthesis: AE, adverse effects  
\*Blood Vessel Prosthesis: AE, adverse effects  
Cell Adhesion: DE, drug effects  
Cell Survival: DE, drug effects  
Cells, Cultured  
Dose-Response Relationship, Drug  
\*Endothelium, Vascular: DE, drug effects  
\*\*\* Glutaral: PK, pharmacokinetics\*\*\*  
\*\*\*\*Glutaral: TO, toxicity\*\*\*  
Saphenous Vein  
Thymidine: AI, antagonists & inhibitors  
RN \*\*\*111-30-8 (Glutaral)\*\*\* ; 50-89-5 (Thymidine)  
CN 0 (Aldehydes)

L29 ANSWER 10 OF 15 MEDLINE DUPLICATE 6  
ACCESSION NUMBER: 84103349 MEDLINE  
DOCUMENT NUMBER: 84103349 PubMed ID: 6691733  
TITLE: Biodegradation and \*\*\*aneurysm\*\*\* formation in  
umbilical vein grafts. Observations and a realistic  
strategy.  
AUTHOR: Dardik H; Ibrahim I M; Sussman B; Kahn M; Sanchez M;  
Klausner S; Baier R E; Meyer A E; Dardik I I  
SOURCE: ANNALS OF SURGERY, (1984 Jan) 199 (1) 61-8.  
Journal code: 0372354. ISSN: 0003-4932.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals  
ENTRY MONTH: 198402  
ENTRY DATE: Entered STN: 19900319  
Last Updated on STN: 19900319  
Entered Medline: 19840222

AB In a series of 756 \*\*\*glutaraldehyde\*\*\* -stabilized umbilical vein  
grafts implanted over a 7 1/2-year period, \*\*\*aneurysms\*\*\* were  
identified in seven cases. The earliest \*\*\*aneurysm\*\*\* was seen at 31  
months after implantation and the remainder between 43 and 79 months after  
surgery. Corrective surgery was performed in five cases and succeeded in  
four. **Although definite mechanisms have not been identified, mechanical  
fatigue, reversal of \*\*\*aldehyde\*\*\* \*\*\*crosslinks\*\*\*, and  
immunologic factors may be operative.** The pathologic changes include: (1)  
actual dilation of both graft and mesh with or without intraluminal  
thrombus and, (2) maintenance of graft diameter with erosion of the  
umbilical vein and polyester mesh rupture leading to perigraft hematoma  
and false \*\*\*aneurysm\*\*\* formation. Microscopic examination and  
infrared spectral analysis confirmed the presence of host-contributed  
lipid in some specimens. Although this is a low incidence of  
\*\*\*aneurysm\*\*\* formation, umbilical vein grafts should be selected  
primarily for patients with limited life expectancy or for whom  
alternative materials with comparable or superior patency rates are not

available or acceptable. Periodic angiography, particularly after 3 or 4 years, is recommended as a routine part of follow-up examinations. Improved graft materials and control of host environmental factors are potential means to reduce the noted degradation.

CT Check Tags: Female; Human; Male

\*\*\*\*Aneurysm: ET, etiology\*\*\*

\*\*\* Aneurysm: SU, surgery\*\*\*

Arteries: SU, surgery

Biodegradation

\*Bioprosthesis: AE, adverse effects

\*Blood Vessel Prosthesis: AE, adverse effects

Intermittent Claudication: SU, surgery

\*Leg: BS, blood supply

Middle Age

Postoperative Complications

\*Umbilical Veins: TR, transplantation

(FILE 'HOME' ENTERED AT 12:07:55 ON 18 NOV 2002)

FILE 'REGISTRY' ENTERED AT 12:08:13 ON 18 NOV 2002

	E ACETALDEHYDE/CN
L1	1 S E3
	E PARALDEHYDE/CN
L2	1 S E3
	E ACROLEIN/CN
L3	1 S E3
	E BENZALDEHYDE/CN
L4	1 S E3
	E FORMALDEHYDE/CN
L5	1 S E3
	E FORMOCRESOL/CN
L6	1 S E3
	E FURALDEHYDE/CN
L7	1 S E3
	E GLUTARAL/CN
L8	1 S E3
	E GLYCERALDEHYDE/CN
L9	1 S E3
	E GLYOXAL/CN
L10	1 S E3
	E PHENYLGLYOXAL/CN
L11	1 S E3
	E PYRUVALDEHYDE/CN
L12	1 S E3
	E MALONDIALDEHYDE/CN
L13	1 S E3
	E THIOBARBITURIC ACID/CN
L14	1 S E3
	E O PHTHALDEHYDE/CN
	E RETINALDEHYDE/CN
L15	1 S E3
	E CARBODIIMIDE/CN
L16	1 S E3
	E CYANAMIDE/CN
L17	1 S E3
	E CYANOGENAMIDE/CN
L18	1 S E3



FILE 'HCAPLUS, MEDLINE, EMBASE, BIOSIS' ENTERED AT 12:11:54 ON 18 NOV 2002

L19 657573 S ?ALDEHYDE OR ACROLEIN OR FORMOCRESOL? OR GLUTARAL OR GLYOXAL  
L20 53027 S THIOBARBITURIC ACID OR CARBODIIMIDE OR CYANAMIDE OR CYANOGENA  
L21 210161 S ANEURYSM? OR BLOOD CLOT?  
L22 359009 S CROSS LINK? OR CROSSLINK?  
L23 240371 S L1 OR L2 OR L3 OR L4 OR L5 OR L6 OR L7 OR L8 OR L9 OR L10 OR  
L24 732706 S L19 OR L20 OR L23  
L25 59 S L21 AND L22 AND L24  
\*L26 37 DUPLICATE REMOVE L25 (22 DUPLICATES REMOVED)  
L27 137763 S ANEURYSM?  
L28 29 S L24 AND L22 AND L27  
\* L29 15 DUPLICATE REMOVE L28 (14 DUPLICATES REMOVED)

7/6,K/1 (Item 1 from file: 144)

DIALOG(R)File 144:(c) 2002 INIST/CNRS. All rts. reserv.

15086485 PASCAL No.: 01-0246131

The role of crosslinking in modification of the immune response  
elicited against xenogenic vascular acellular matrices  
2001

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...in a canine model, this AMVP shows excellent handling characteristics, low thromboreactivity, no evidence of **aneurysm**, and exceptional graft patency in the peripheral vasculature. As a first step in the development... mononuclear cells into the media and adventitia. To modify the immune response, we applied three crosslinking techniques to the canine AMVPs: glutaraldehyde, polyglycidyl ether, and carbodiimide. All crosslinkers significantly reduced degradation and cellular infiltration of the prostheses. However, crosslinking neither eliminated the chronic inflammatory response surrounding the implants nor reduced the humoral response to...

English Descriptors: Crosslinking ; Immunogenicity; Biocompatibility;  
Implanted material; Heterograft; Prosthesis; Animal; Rat; Dog; Caprine

7/7/2 (Item 1 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

(c) 2002 Inst for Sci Info. All rts. reserv.

01064753 Genuine Article#: FT762 Number of References: 48

Title: HETEROZYGOUS MUTATION IN THE G+5 POSITION OF INTRON-33 OF THE  
PRO-ALPHA-2(I) GENE (COL1A2) THAT CAUSES ABERRANT RNA SPLICING AND  
LETHAL OSTEOGENESIS IMPERFECTA - USE OF CARBODIIMIDE METHODS THAT  
DECREASE THE EXTENT OF DNA SEQUENCING NECESSARY TO DEFINE AN UNUSUAL  
MUTATION

Author(s): GANGULY A; BALDWIN CT; STROBEL D; CONWAY D; HORTON W; PROCKOP DJ  
Corporate Source: THOMAS JEFFERSON UNIV, JEFFERSON INST MOLEC MED, DEPT  
BIOCHEM & MOLEC BIOL/PHILADELPHIA//PA/19107; THOMAS JEFFERSON  
UNIV, JEFFERSON INST MOLEC MED, DEPT BIOCHEM & MOLEC  
BIOL/PHILADELPHIA//PA/19107; UNIV TEXAS, HLTH SCI CTR, DEPT  
PEDIAT/HOUSTON//TX/77225

Journal: JOURNAL OF BIOLOGICAL CHEMISTRY, 1991, V266, N18, P12035-12040

Language: ENGLISH Document Type: ARTICLE

Abstract: Cultured skin fibroblasts from a proband with osteogenesis imperfecta were found to synthesize normal and shortened alpha-2(I) chains of type I procollagen. A cDNA library was prepared using mRNA isolated from the proband's fibroblasts. Partial nucleotide sequencing of five clones demonstrated that two clones lacked the 54 base pairs (bp) of coding sequences found in exon 33 of the pro-alpha-2(I) gene (COL1A2). To reduce the amount of nucleotide sequencing required, heteroduplexes were prepared from two of the clones, one normal and the other lacking exon 33, and reacted with a water-soluble carbodiimide under conditions in which nonbase-paired G and T nucleotides are specifically modified by the reagent. Analysis of the heteroduplexes by immunoelectron microscopy suggested that the sequence variation near the codons of exon 33 was the only sequence difference in the cDNA clones. Amplification of cDNA from the proband by polymerase chain reaction gave products of two sizes, one of the expected size for the normal sequence and the other of the expected size for a product lacking the 54 bp in exon 33. To define the mutation in genomic DNA, a 1.6-kilobase region spanning exons 32 and 34 was amplified by the polymerase chain reaction and DNA heteroduplexes were prepared from the

products. The heteroduplexes were treated with a water-soluble carbodiimide and then used as templates for primer extension under conditions in which extension terminates at the site of a carbodiimide-modified base. The results suggested a mismatch near the exon-intron boundary of exon 33 and a second mismatch near the 3' end of intron 33. Nucleotide sequencing of the polymerase chain reaction products revealed a single-base substitution in one allele that changed the moderately conserved G at position +5 of the 5' splice site of intron 33 to an A. In addition, there was an apparently neutral single-base substitution that placed both a G and T at position +661 of intron 33. The results provide only the third example of a mutation in the G at the +5 position of an intron that causes aberrant RNA splicing. Also, the results demonstrate that use of techniques involving carbodiimide modification of DNA heteroduplexes can reduce the amount of nucleotide sequencing necessary to define mutations in large and complex genes.

7/7/3 (Item 2 from file: 34)  
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
(c) 2002 Inst for Sci Info. All rts. reserv.  
00802752 Genuine Article#: EY016 Number of References: 43  
Title: A LABORATORY MODEL TO QUANTITATE THE RESISTANCE OF COLLAGEN VASCULAR GRAFTS TO BIODEGRADATION  
Author(s): MEGERMAN J; REDDY E; LITALIEN GJ; WARNOCK DF; ABBOTT WM  
Corporate Source: MASSACHUSETTS GEN HOSP, SURG SERV, VASC RES LAB, ACC 458/BOSTON//MA/02114; HARVARD UNIV, SCH MED, DEPT SURG/BOSTON//MA/02115; UNIV NATAL, FAC MED, DEPT SURG/CONGELLA 4013//SOUTH AFRICA/  
Journal: JOURNAL OF BIOMEDICAL MATERIALS RESEARCH, 1991, V25, N3, P295-313  
Language: ENGLISH Document Type: ARTICLE  
Abstract: Recent reports have shown that despite extensive preclinical testing, vascular grafts of biological origin undergo severe biodegradation and **aneurysm** formation after two or more years of implantation in man. The purpose of this study was to develop a laboratory model to quantitate and correlate the stability of crosslinked collagen grafts in vitro and in vivo. This resistance to biodegradation was assessed by measuring changes in suture pullout force and sample weight in response to controlled digestion with bacterial collagenase, in 0.5-cm-long cylindrical graft segments (chemically processed bovine carotid artery and human umbilical cord vein) that were implanted in the rat subcutis for 2 to 12 weeks. Scar tissue was removed from the explants by brief enzymatic digestion, a process that was inhibited when graft segments had become infected. Changes in dry weight were more consistent than were changes in wet weight; drying the graft segments had no effect on their degradation in vivo or in vitro. Intact cylindrical rings suffered somewhat less damage than did opened, flattened cylinders. Graft degradation increased markedly with implantation time, and was detected after only 3 weeks. We conclude that the rat subcutis model, when combined with controlled enzymatic digestion, first to remove scar tissue and then to challenge structural integrity, provides an accelerated assay by which to predict the stability of collagen vascular grafts.

7/7/4 (Item 1 from file: 94)  
DIALOG(R)File 94:JICST-EPlus  
(c)2002 Japan Science and Tech Corp(JST). All rts. reserv.  
00578240 JICST ACCESSION NUMBER: 88A0179263 FILE SEGMENT: JICST-E  
Cross - linking amino acids in elastin - With special reference to

neodesmosine, a new amino acid.  
NAGAI YASUSHI (1); SATO MASAO (1); SASAKI MISAO (1); EBINA SATOSHI (1)  
(1) Fukushima'ikai Chuken  
Fukushima Igaku Zasshi (Fukushima Medical Journal), 1987, VOL.37,NO.2,  
PAGE.159-166, FIG.9, TBL.2, REF.28  
JOURNAL NUMBER: F0689AAQ ISSN NO: 0016-2582 CODEN: FSIZA  
UNIVERSAL DECIMAL CLASSIFICATION: 577.112.012  
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan  
DOCUMENT TYPE: Journal  
ARTICLE TYPE: Review article  
MEDIA TYPE: Printed Publication  
ABSTRACT: The elastic properties of various tissues, including lung, aorta, ligament and skin, have so far been shown to depend on the presence of connective tissue protein, elastin. The intermolecular cross - links in elastin play a crucial role in determining its elasticity and insolubility. The unique amino acids, desmosine and isodesmosine were first discovered as cross - links in elastin by Partridge et al. in 1963. Several others have since been found. Recently, we have isolated an unknown amino acid from bovine ligament elastin. The UV-, and NMR-spectroscopic examination shows that the compound is a pyridinium derivative with three amino acid side chains, 1-(5-amino-5-carboxypentyl)-3,5-bis-(3-amino-3-carboxypropyl)-pyridinium. Since the compound is a novel type of cross - linking amino acid in elastin, we have designated it "neodesmosine". Neodesmosine was also found in hen egg shell membrane together with desmosine and isodesmosine. When an egg shell membrane suspension and a small amount of formaldehyde were heated in a sealed tube at 110.DEG.C for 24h, the neodesmosine content increased approximately tenfold. When (13C)-formaldehyde was added to the suspension, (13C)-atom was incorporated into the C-2 position of the pyridinium ring of neodesmosine. The biosynthetic route to neodesmosine was proposed. Aortic sample was obtained from a patient with Marfan's syndrome subjected to corrective surgery of annulo aortic ectasia. The contents of three desmosines in the patient were approximately one-tenth of those in the controls. The ratio of neodesmosine to the other desmosines in the patient was higher than that of controls. Furthermore, about 50% of the three crosslinking amino acids were easily extracted from the patient's aorta with 1M aqueous sodium chloride solution, and the extracted fraction contained more neodesmosine than either of the others. Thus, a defect in elastin could explain the vascular fragility clinically observed in Marfan's syndrome patients.(author abst.

7/7/5 (Item 2 from file: 94)  
DIALOG(R)File 94:JICST-EPlus  
(c)2002 Japan Science and Tech Corp(JST). All rts. reserv.  
00535688 JICST ACCESSION NUMBER: 88A0064541 FILE SEGMENT: JICST-E  
Effects of vitamin B6 on dissecting **aneurysm** of rats fed .BETA.-aminopropionitrile. (Part 2).  
KONO KAZUHIKO (1); HAYAKAWA MICHIO (1); KUZUYA FUMIO (1)  
(1) Nagoya Univ., School of Medicine  
Domyaku Koka(Journal of Japan Atherosclerosis Society), 1987, VOL.15,NO.4,  
PAGE.1051-1053, FIG.2, REF.5  
JOURNAL NUMBER: Y0035AAM ISSN NO: 0386-2682  
UNIVERSAL DECIMAL CLASSIFICATION: 577.164.1 591.112.3/.4.05+591.413/.416  
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan  
DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

ABSTRACT: Physiological effects of pyridoxal 5'-phosphate (PLP) on enzymatic reactions of cross - linking formation in collagen and elastin were studied. In the previous report of authors, it was observed that PLP combined with .BETA.-aminopropionitrile (BAPN) and considerably inhibited the BAPN induced depression of activities of vitamin B6 dependent enzymes in vitro. In this study, we performed an animal experiment using SD rats fed the lathyrogen (BAPN) and the effects of PLP on these animals were examined. Thirty male SD rats were separated the following five groups: Group 1, three rats fed just a standard diet as control. Group 2, six rats receiving 250mg/kg/day of pyridoxine hydrochloride (PIN). Group 3, seven rats receiving 300mg/kg/day of BAPN. Group 4, seven rats receiving the same dose of BAPN as rats of group 3 and 125mg/kg/day of PIN. Group 5, seven rats receiving the same dose of BAPN as rats of group 3 and 250mg/kg/day of PIN. Authors observed the occurrence of death to be due to lethargic dissection of aorta for 189 days. During the observation period, six rats of group 3 and six rats of group 4 died evidently on account of toxic effects of BAPN. But there were three survivors in group 5. It was generally observed that mean value of days required to occur lethargic dissection of aorta in group 5 was longer than those of groups 3 and 4. From these results, it was concluded that the existence of sufficient dose of vitamin B6 may be necessary for maintaining the activity of lysyl oxidase which is the key enzyme for cross - linking formation of collagen and elastin, and lethargic dissections of aorta in rats caused with BAPN were inhibited by the administration of vitamin B6. (author abst.)

7/7/6 (Item 1 from file: 35)

DIALOG(R)File 35:Dissertation Abs Online

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1018503 ORDER NO: NOT AVAILABLE FROM UNIVERSITY MICROFILMS INT'L.

ELASTIN AND COLLAGEN OF HUMAN ASCENDING AORTA: A BIOCHEMICAL STUDY OF CHANGES ASSOCIATED WITH AGING, THE MARFAN SYNDROME AND ANNULO-AORTIC ECTASIA (AMINO ACID, CROSS - LINK , **ANEURYSM** )

Author: HALME, TAPIO

Degree: PH.D

Year: 1987

Corporate Source/Institution: TURUN YLIOPISTO (FINLAND) (5760)

Source: VOLUME 49/03-C OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 453. 98 PAGES

ISBN: 951-880-005-7

Publisher: UNIVERSITY OF TURKU, SF-20500 TURKU, FINLAND

The biochemical changes of the main structural proteins of the ascending aorta, elastin and collagen, were evaluated in normal aging aorta and in dilated ascending aorta (annulo-aortic ectasia). Part of the annulo-aortic ectasia-patients had the Marfan syndrome. The concentration of the aortic elastin was highest during childhood and decreased with aging. The collagen concentration, on the other hand, increased with age.

The lysine-derived crosslinking amino acids of elastin and collagen were analyzed by labelling the proteins with tritiated borohydride, hydrolyzing them and separating the amino acids by ion exchange chromatography. The lysine aldehyde /aldol condensation product-ratio in elastin as well as the reducible crosslinks /hexosyl lysines-ratio in collagen decreased with age indicating slowing down of the synthesis of

these proteins. In elastin, a new borohydride-reducible compound was found. It seemed to elute in chromatography with valine, between proline and leucine. The activity of this peak increased steadily with aging. Its analysis by gas chromatography/mass spectrometry suggested the compound to be a cyclic derivative of aldol condensation product formed by a non-specific proteolysis during aging of elastin.

In the dilated aortic wall several changes were observed in elastin and/or collagen. The elastin concentration was usually low but varied from normal level to zero. The concentration of collagen changed approximately reverse to that of elastin. No differences were observed in the concentration of elastin and collagen between the dilated aortic walls of the Marfan syndrome patients and of the non-Marfan patients. In the elastin preparations of the dilated aortas the concentration of the new borohydride reducible compound was low suggesting either accelerated elastin synthesis as a response to elastolysis or degradation of old, possibly fatty acid containing elastin molecules. The high ratio reducible crosslinks /hexosyl lysines in collagen of one dilated aorta as well as the low type III/I collagen ratio in several delated aortas suggested a fibrotic process and/or specific degradation of the type III collagen in the pathological aortas.

File 144:Pascal 1973-2002/Nov W3  
File 6:NTIS 1964-2002/Nov W3  
File 8:Ei Compendex(R) 1970-2002/Nov W2  
File 99:Wilson Appl. Sci & Tech Abs 1983-2002/Oct.  
File 65:Inside Conferences 1993-2002/Nov W2  
File 34:SciSearch(R) Cited Ref Sci 1990-2002/Nov W3  
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec  
File 94:JICST-EPlus 1985-2002/Sep W3  
File 35:Dissertation Abs Online 1861-2002/Oct  
Set Items Description  
S1 87880 ANEURYSM?  
S2 178784 CROSSLINK??? OR CROSS()LINK???  
S3 177823 ALDEHYDE? OR ACETALDEHYDE OR PARALDEHYDE OR ACROLEIN OR BENZALDEHYDE OR FORMALDEHYDE OR FORMOCRESOL?  
S4 24295 FURALDEHYDE OR GLUTARAL OR GLYCERALDEHYDE OR GLYOXAL OR PHENYLGLYOXAL OR PYRUVALDEHYDE OR MALONDIALDEHYDE  
S5 19268 THIOBARBITURIC()ACID OR O()PHthalaldehyde OR RETINALDEHYDE OR CARBODIIMIDE OR CYANAMIDE OR CYANOGENAMIDE  
S6 7 S1 AND S2 AND S3:S5  
S7 6 RD (unique items)

8/8/1 (Item 1 from file: 9)  
DIALOG(R)File 9:(c) 2002 Resp. DB Svcs. All rts. reserv.  
02346656 (USE FORMAT 7 OR 9 FOR FULLTEXT)  
Wound Care Products - Wound Sealing  
1998  
WORD COUNT: 4102  
COMPANY NAMES: CLOSURE MEDICAL CORP  
INDUSTRY NAMES: Medical devices & diagnostics  
PRODUCT NAMES: Surgical dressings (384218)  
CONCEPT TERMS: All company; All market information; Corporate strategy; Trends  
GEOGRAPHIC NAMES: North America (NOAX); United States (USA)

8/8/5 (Item 4 from file: 442)

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00027588

Copyright (C) 1983 American Medical Association  
Osteogenesis Imperfecta and Paget's Disease of Bone; Biochemical and  
Morphologic Studies (ORIGINAL INVESTIGATIONS)  
1983;

LINE COUNT: 00362 WORD COUNT: 05007

8/8/6 (Item 1 from file: 149)

DIALOG(R)File 149:(c) 2002 The Gale Group. All rts. reserv.  
02064184 SUPPLIER NUMBER: 84072814 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
Osteosarcoma: A Multidisciplinary Approach to Diagnosis and Treatment.  
2002

WORD COUNT: 4021 LINE COUNT: 00414  
DESCRIPTORS: Osteosarcoma--Care and treatment

8/3,K/2 (Item 1 from file: 442)

DIALOG(R)File 442:AMA Journals  
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00043334

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Histochemistry of Aortic Elastin in Patients With Nonspecific Abdominal  
Aortic **Aneurysmal** Disease

TILSON, M. DAVID

Archives of Surgery

April, 1988; 123: 503-5051988;

LINE COUNT: 00115 WORD COUNT: 01599

ABSTRACT: Histochemical studies of nine **aneurysmal** aortas revealed a  
conspicuous deficiency of iron hematoxylin-reactive elastin in four  
specimens, in comparison...

... to test the relative importance of maturation arrest vs enzymatic  
destruction in the pathogenesis of **aneurysmal** disease will require  
further studies.

Nonspecific refers to those forms of **aneurysmal** disease in which the  
phenotypes of known connective-tissue disorders, like Marfan's syndrome or  
Ehlers-Danlos syndrome, are not recognizable. Abdominal aortic **aneurysms**  
(AAAs) are the most common form of this disease. The primacy of  
atherosclerosis in the pathogenesis of these **aneurysms** has been  
questioned in recent years, (Ref. 1,2) and other studies have raised the...  
...that there is an important genetic element.(Ref. 3-8)

The deformation that occurs in **aneurysmal** disease suggests  
mechanical failure of one or more of the major structural proteins of the...  
... et al(Ref. 10) were the first to document deficiencies of elastin and  
collagen in **aneurysmal** tissue (as percentages of solids present in the  
aortic wall), and the observation of elastin...

...for study in addition to eight adult human control aortas. The aortas of  
normal and **aneurysm**-prone Blotchy mice were also evaluated.

#### MATERIALS AND METHODS

Human specimens were obtained from the...

... the criterion of a final diagnosis of either AAA or atherosclerosis of  
the aorta (non- **aneurysmal** ); consecutive specimens fitting the diagnostic  
criteria were entered into the study. Nine **aneurysmal** and eight control  
specimens were evaluated. The human fetal (six weeks) and newborn aortas  
were...

... of age. Normal mouse aortas were obtained from littermate brothers of  
the mutant male mice.

Formaldehyde solution was routinely used for fixation after preliminary studies with fresh tissues suggested that the... of the four conspicuously abnormal AAA specimens. Paradoxically, as illustrated in Fig 1, top, these **aneurysmal** aortic walls showed a background matrix that resembled the lamellar organization of elastin when viewed under fluorescent light with rhodamine filters.

Figure 2 illustrates similar phenomena in the **aneurysm** prone Blotchy mouse. The aorta is thicker than in the normal mouse, with widening of the... than with the iron hematoxylin.

Figure 3 illustrates an adult human control aorta and an **aneurysmal** aorta. Figure 3, bottom, shows the UV photomicrographs under neutral filters and adds one more...

...codistributes with a fibrillar matrix that morphologically resembles elastin.

#### COMMENT

While four of the nine **aneurysmal** aortas showed conspicuous deficiency of EVG-reactive elastin, well-defined elastic lamellae were stained by... fetal aorta. This observation does not necessarily imply that the elastin of certain patients with **aneurysms** undergoes some kind of maturation arrest, because there is the alternative explanation that the elastin...

...whether similar changes are evident at sites in the aorta that are remote from the **aneurysm**.

In our laboratory, our work has been primarily directed toward pursuing the possibility of an abnormality of collagen cross-linkage in AAA. (Ref. 18) An extension of that effort has led to data that suggest that there may be several molecular forms of collagen abnormality in patients with **aneurysmal** disease. This study suggests that an abnormality of elastin may also be a contributory factor...

...and osteogenesis imperfecta, that have been described, a similar pattern of molecular heterogeneity in nonspecific **aneurysmal** disease would not be surprising.

This study was supported by grant RO-1 HL 29325...

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8/3,K/3 (Item 2 from file: 442)  
DIALOG(R)File 442:AMA Journals  
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00039990  
Copyright (C) 1987 American Medical Association  
Arterial Regeneration Over Polydioxanone Prostheses in the Rabbit ( ORIGINAL ARTICLE)

GREISLER, HOWARD P.; ELLINGER, JOAN; SCHWARCZ, THOMAS H.; GOLAN, JOHN;  
RAYMOND, RICHARD M.; KIM, DAE UN

Archives of Surgery

June, 1987; 122: 715-7211987;

LINE COUNT: 00305 WORD COUNT: 04218

... Smooth regenerated conduits without stenoses were seen in 27 of 28 specimens, with one small **aneurysm**. Transprosthetic myofibroblast migration and proliferation paralleled the kinetics of macrophage-mediated prosthetic dissolution, which was...

...living anesthetized animals.

Light Microscopy

Following fixation of all 28 specimens in 40% buffered neutral formaldehyde solution, 5-mu m longitudinal and cross sections of tissue embedded in paraffin were stained...

...an interstitial hemorrhagic pneumonia.

Among the 28 explants, no evidence of perigraft hematoma, hemorrhage, false **aneurysm** , thrombosis, or graft infection was observed. The PDS material progressively dissolved and was no longer...conduits with the following gross characteristics: parallel walls (original diameter), 96.4% (27/28); true **aneurysmal** dilatation, 3.6% at three months (1/28); and stenosis or occlusion, 0%.

All specimens...

... more dense than previously, likely a reflection of increased collagen deposition and alterations of collagen cross - linking . Minimal lipid or calcium infiltration was seen through 12 months.

Scanning electron microscopy (Fig 4...absorbed prosthesis might more reliably allow for the adequate strength necessary to prevent bursting or **aneurysmal** dilatation in species with slower tissue regenerative properties was not fully resolved by our study. Certainly, the rate of **aneurysmal** dilatation (3.6%) compares favorably with that published previously (Ref. 1) in PGA specimens (15...)

... J.E., and R.M.R., unpublished data, January 1984). It may be theorized that **aneurysmal** dilatation begins when the sum of the strengths of the tissue and the prosthetic components to resist dilatation secondary to lateral wall pressure are at a combined minimum. **Aneurysmal** dilatation would then be likely secondary either to an inadequate early combined tensile strength -- probably...

8/3,K/4 (Item 3 from file: 442)

DIALOG(R)File 442:AMA Journals

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00038447

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Elastolytic and Collagenolytic Studies of Arteries; Implications for the Mechanical Properties of **Aneurysms** (PAPERS READ BEFORE THE SEVENTH ANNUAL SURGICAL SYMPOSIUM OF THE ASSOCIATION OF VETERANS ADMINISTRATION SURGEONS, AIRLIE, VA, MAY 25-28, 1983)

DOBRIN, PHILIP B.; BAKER, WILLIAM H.; GLEY, WILLIAM C.

Archives of Surgery

April, 1984; 119: 405-409 1984;

LINE COUNT: 00310 WORD COUNT: 04281

Elastolytic and Collagenolytic Studies of Arteries; Implications for the Mechanical Properties of **Aneurysms**

... and compliance changes after treatment with collagenase. This finding corresponds to the greater tendency of **aneurysms** to develop in internal and common iliac arteries. (Arch Surg 1984; 119: 405-409)

The formation and rupture of **aneurysms** is one of the most dramatic pathologic events that occurs to arteries. These lesions occur...

... contributions of the fibrous connective tissues elastin and collagen to the formation and rupture of **aneurysms**. This evaluation was undertaken by using large doses of purified elastase and purified collagenase to...

... these studies, **each vessel segment was fixed in buffered 10% aqueous solutio of standard 40% formaldehyde solution, embedded in paraffin, and sectioned for histologic examination.** Sections were stained with Verhoeff's ...Iliac Arteries

Internal and common iliac arteries are generally more susceptible to the development of **aneurysms** than are external iliac arteries. (Ref. 1,2) Accordingly, experiments were performed on nine human...

...with collagenase, the vessels took up markedly less Masson stain.

COMMENT

The mechanical behavior of **aneurysms** often is described by invoking the law of Laplace:  $T = P \times r$ , (Ref. 7...)

... becomes thin with dilatation and the ratio of radius to wall thickness increases. (Ref. 4) **Aneurysms** frequently are lined with a laminated clot, but one cannot presume that the presence of...

... exert retractive tension. Indeed, in most cases, the clot is easily scooped out after arteriotomy.

**Aneurysms** often dilate gradually, sometimes taking several years to achieve large dimensions. The gradual aspect of...

... this gradual phenomenon, geometric and structural. The geometric explanation is concerned with the shape of **aneurysms**. The previously

stated equation may be used to compute the circumferential tension in a cylinder. However, **aneurysms** frequently acquire a fusiform shape, a configuration better approximated by a sphere (Fig 4). Since...

... of that for a cylinder, the wall tension required to maintain equilibrium in a fusiform **aneurysm** is only about half of that in a cylindrical vessel with the same dimensions. This...

... Thinning of the wall also increases circumferential wall stress. (Ref. 4)

The structural explanation of **aneurysmal** stability is concerned with the contributions of collagen. The left panels of Figs 1 to...

... Indeed, Summer et al (Ref. 8) showed that the elastin and collagen persisting in human **aneurysms** is located mainly in the tunica adventitia. If the elastin in the wall is neglected...

... This conclusion is supported by histologic studies. (Ref. 11) Slack collagen could be recruited in **aneurysmal** vessels, especially if a vessel is sufficiently dilated to stretch the adventitia. In our experiments...

... time of excision. In vivo, new collagen may also be deposited as the wall becomes **aneurysmal**, for stretch is known to be a stimulus for connective tissue synthesis by vascular smooth...

... be one explanation for the elevated elastase and collagenase activities reported in the walls of **aneurysms**. (Ref. 13,14)

The pathogenesis of **aneurysms** is unclear. Several authors have noted the relative paucity of vasa vasorum in the human...

... 7,15,16) suggesting that insufficient wall nutrition may predispose patients to the formation of **aneurysms** in this vessel. Moreover, accumulation of atherosclerotic material may occlude the ostia of the vessels...

... necrosis, (Ref. 15,17) it does not, in the short run, cause the development of **aneurysms**. Although most **aneurysms** are attributed to atherosclerotic degeneration of the wall, the data of Tilson and Stansel (Ref. 18) suggest that the association of **aneurysms** with atherosclerosis may be incidental. Their comparison of patients with occlusive and **aneurysmal** disease showed marked differences in age, sex ratio, and postoperative prognosis. Tilson and Dang (Ref. 19) noted that patient with **aneurysmal** disease often exhibit generalized arteriomegaly, suggesting that such patient may exhibit a global tendency for **aneurysm** development. Such a tendency might reflect a defect in connective tissue metabolism. In this regard, Tilson (Ref. 20) documented decreased tissue copper levels in both experimental animals and patients with **aneurysms**. Copper is known to be a cofactor in the synthesis of normal elastin and collagen, and Summer and coworkers (Ref. 8) reported that human aortic **aneurysms** possess decreased quantities of elastin and collagen. Recently, Swanson et al (Ref. 21) suggested that...

... such as laparotomy that are unrelated to arterial surgery, may precipitate rupture of previously stable **aneurysms**.

#### CITED REFERENCES:

... My colleagues and I have had some experience with elastase and the experimental production of **aneurysms**. At one time, elastase was reported to be a means of producing experimental **aneurysms**, and it worked well in this regard. I can confirm that elastase-produced **aneurysms** do not rupture for up to one year. All of our dogs with abdominal **aneurysms** produced by elastase were followed up for one year, and there was no incidence of...

... has a good collagen mechanism or method for synthesizing collagen to maintain integrity of the **aneurysm**. Presumably, there is a dynamic interplay between elastic tissue and collagen that occurs in all...  
... at all times. We believe that elastic destruction is the first incident

leading to an **aneurysm** . We are all aware of the apparent increase in rupture of abdominal **aneurysms** in the clinical setting following abdominal exploration for another condition. This event has some interesting...

...Recently, there has been considerable interest in the use of lathyrogens (drugs that inhibit the crosslinking of collagen) in the treatment of arthritis, keloids, urethral strictures, and other problems of excessive scarring. Do you think that use of these drugs will lead to **aneurysms** , as it did in turkeys that ate sweet peas, the event that led to the...

...a little more concerned with the aorta rather than the iliac artery? Certainly, in humans, **aneurysm** of the aorta is much more of a problem than that of the iliac artery...

...documenting that there has, in fact, been an increase in the incidence of abdominal aortic **aneurysms** in a community study in their area. This is the only data I know of...

...I would like to ask relates to the metabolism of elastin and collagen in the **aneurysm** wall. Two researchers have constructed a poststenotic dilation model in which the physical properties of...

...and colleagues at the University of California, San Francisco, described ten patients with known asymptomatic **aneurysms** that ruptured within an average of ten days after laparotomy. So, this phenomenon has been...

...of overnight storage under refrigeration.

Dr Myers, I do not think that an epidemic of **aneurysms** is to be expected, but I suppose we will just have to wait and see...

...lathyrogens will be. In our work, we are just trying to understand the mechanism of **aneurysmal** lesions. Indeed, I would like to emphasize that the focus of this work was not...

...did not study the aorta. Certainly, the aorta is the vessel more frequently involved with **aneurysm** . It is larger than any other artery. We studied external and internal iliac arteries because location and size, one predisposed to the development of **aneurysm** , and the other not. The external and internal iliac arteries seemed to meet these criteria...

...the University of California, Los Angeles, have measured these enzymes in patients with and without **aneurysms** . They found that both enzymes were elevated in the walls of **aneurysms** , but, as pointed out by the investigators, one really does not know whether the increase in enzymatic activity causes or results from the enlarged **aneurysmal** wall. Increased enzymatic activity may reflect increased turnover rates of the wall connective tissue in the highly stressed **aneurysmal** wall.

File 95:TEME-Technology & Management 1989-2002/Nov W1  
File 98:General Sci Abs/Full-Text 1984-2002/Oct  
File 9:Business & Industry(R) Jul/1994-2002/Nov 15  
File 16:Gale Group PROMT(R) 1990-2002/Nov 18  
File 160:Gale Group PROMT(R) 1972-1989  
File 148:Gale Group Trade & Industry DB 1976-2002/Nov 18  
File 621:Gale Group New Prod.Annou.(R) 1985-2002/Nov 14  
File 636:Gale Group Newsletter DB(TM) 1987-2002/Nov 18  
File 441:ESPICOM Pharm&Med DEVICE NEWS 2002/Nov W2  
File 20:Dialog Global Reporter 1997-2002/Nov 18  
File 813:PR Newswire 1987-1999/Apr 30  
File 15:ABI/Inform(R) 1971-2002/Nov 18  
File 88:Gale Group Business A.R.T.S. 1976-2002/Nov 14

File 442:AMA Journals 1982-2002/Dec B2  
File 444:New England Journal of Med. 1985-2002/Nov W3  
File 149:TGG Health&Wellness DB(SM) 1976-2002/Nov W2

Set	Items	Description
S1	14357	ANEURYSM?
S2	38065	CROSSLINK??? OR CROSS()LINK???
S3	38703	ALDEHYDE? OR ACETALDEHYDE OR PARALDEHYDE OR ACROLEIN OR BENZALDEHYDE OR FORMALDEHYDE OR FORMOCRESOL?
S4	2540	FURALDEHYDE OR GLUTARAL OR GLYCERALDEHYDE OR GLYOXAL OR PHENYLGLYOXAL OR PYRUVALDEHYDE OR MALONDIALDEHYDE
S5	1561	THIOBARBITURIC()ACID OR O()PHTHALDEHYDE OR RETINALDEHYDE OR CARBODIIMIDE OR CYANAMIDE OR CYANOGENAMIDE
S6	0	S1(S)S2(S)S3:S5
S7	6	S1 AND S2 AND S3:S5
S8	6	RD (unique items)

File 42:Pharmaceuticl News Idx 1974-2002/Nov W2  
File 285:BioBusiness(R) 1985-1998/Aug W1  
File 71:ELSEVIER BIOBASE 1994-2002/Nov W3  
File 74:Int.Pharm.Abs. 1970-2002/Nov  
File 174:Pharm-line(R) 1978-2002/Nov W2

Set	Items	Description
S1	3518	ANEURYSM?
S2	15959	CROSSLINK??? OR CROSS()LINK???
S3	12513	ALDEHYDE? OR ACETALDEHYDE OR PARALDEHYDE OR ACROLEIN OR BENZALDEHYDE OR FORMALDEHYDE OR FORMOCRESOL?
S4	4981	FURALDEHYDE OR GLUTARAL OR GLYCERALDEHYDE OR GLYOXAL OR PHENYLGLYOXAL OR PYRUVALDEHYDE OR MALONDIALDEHYDE
S5	3571	THIOBARBITURIC()ACID OR O()PHTHALDEHYDE OR RETINALDEHYDE OR CARBODIIMIDE OR CYANAMIDE OR CYANOGENAMIDE
S6	0	S1 AND S2 AND S3:S5

File 129:PHIND(Archival) 1980-2002/Nov W2  
File 429:Adis Newsletters(Archive) 1982-2002/Nov 18  
File 445:IMS R&D Focus 1991-2002/Nov W2  
File 453:Drugs of the Future 1990-2002/Aug

Set	Items	Description
S1	477	ANEURYSM?
S2	423	CROSSLINK??? OR CROSS()LINK???
S3	446	ALDEHYDE? OR ACETALDEHYDE OR PARALDEHYDE OR ACROLEIN OR BENZALDEHYDE OR FORMALDEHYDE OR FORMOCRESOL?
S4	71	FURALDEHYDE OR GLUTARAL OR GLYCERALDEHYDE OR GLYOXAL OR PHENYLGLYOXAL OR PYRUVALDEHYDE OR MALONDIALDEHYDE
S5	73	THIOBARBITURIC()ACID OR O()PHTHALDEHYDE OR RETINALDEHYDE OR CARBODIIMIDE OR CYANAMIDE OR CYANOGENAMIDE
S6	0	S1 AND S2 AND S3:S5

6/26,TI/5 (Item 5 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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013492907

WPI Acc No: 2000-664850/200064

Hydrophilic polymer coating for medical devices, e.g. catheter, for use

in reducing or inhibiting matrix metalloproteinases in the body,  
comprises a matrix metalloproteinase inhibiting polymer composition

6/26, TI/6 (Item 6 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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011306349

WPI Acc No: 1997-284254/199726

Production of medical materials - comprises crosslinking gelatin with  
succinimidated poly-L-glutamic acid, haemostatic agent and sealing agent

6/7, K/1 (Item 1 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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014560932 \*\*Image available\*\*

WPI Acc No: 2002-381635/200241

New S-(2(((1-iminoethyl)amino)ethyl)-2-methyl-L-Cystein and its salt  
useful in the treatment of nitric oxide synthase mediated disorders e.g.  
pain, headaches, inflammation, fever, arthritis, diabetes, Alzheimer  
disease, Stroke

Patent Assignee: AWASTHI A K (AWAS-I); BERGMANIS A A (BERG-I); DURLEY R C  
(DURL-I); GANSER S S (GANS-I); HAGEN T J (HAGE-I); HALLINAN E A (HALL-I);  
HANSEN D W (HANS-I); HICKORY B S (HICK-I); MOORMANN A E (MOOR-I); PITZELE  
B S (PITZ-I); PROMO M A (PROM-I); SCHARTMAN R R (SCHA-I); SNYDER J S  
(SNYD-I); TRIVEDI M (TRIV-I); TSYMBALOV S (TSYM-I); WEBBER R K (WEBB-I);  
PHARMACIA CORP (PHAA )

Inventor: AWASTHI A K; BERGMANIS A A; DURLEY R C; GANSER S S; HAGEN T J;  
HALLINAN E A; HANSEN D W; HICKORY B S; MOORMANN A E; PITZELE B S; PROMO M  
A; SCHARTMAN R R; SNYDER J S; TRIVEDI M; TSYMBALOV S; WEBBER R K

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020019563	A1	20020214	US 2000191923	P	20000324	200241 B
			US 2001816577	A	20010323	
US 6403830	B2	20020611	US 2000191923	P	20000324	200244
			US 2001816577	A	20010323	

Priority Applications (No Type Date): US 2000191923 P 20000324; US  
2001816577 A 20010323

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020019563	A1		46	C07C-323/25	Provisional application US 2000191923
US 6403830	B2			C07C-323/58	Provisional application US 2000191923

Abstract (Basic): US 20020019563 A1

NOVELTY - S-(2(((1-iminoethyl)amino)ethyl)-2-methyl-L-Cystein or  
its salt is new.

ACTIVITY - Antiinflammatory; Analgesic; Antipyretic; Antiarthritic;  
Osteopathic; Antirheumatic; Antiasthmatic; Gynecological; Tocolytic;  
Antipsoriatic; Dermatological; Vulnerary; Hepatotropic; Virucide;  
Ophthalmological; Antiulcer; Cystostatic; Antimigraine; Vasotropic;  
Antithyroid; Antianemic; Antidiabetic; Neuroprotective; Nootropic;  
Cerebroprotective; Tranquilizer; Antiallergic; Antibacterial;  
Immunosuppressive; Antiarteriosclerotic; Cardiant; Antidiarrheic;  
Antiparkinsonian; Anticonvulsant; Anti-HIV; Immunomodulator;  
Neuroleptic; Antidepressant; Antismoking; Antialcoholic; and Antitumor.

MECHANISM OF ACTION - Nitric oxide synthesis inhibitors or  
modulators.

Nitric oxide synthase (NOS) activity was measured by monitoring the conversion of L-(2,3-<sup>3</sup>H)-arginine to L-(2,3-<sup>3</sup>H)-citrulline as described in Bredt and Snyder, Proc.Natl.Acad.Sci.U.S.A., 87, 682-685, 1990 and Moore et al, J.Med.Chem.39, 669 - 672, 1996. Human inducible NOS (hiNOS) and human endothelial constitutive NOS (hecNOS) and human neuronal constitutive NOS (hncNOS) were each cloned from RNA extracted from human tissue.

To measure NOS activity, enzyme (10  $\mu$ l) was added to 50 mM Tris (40  $\mu$ l) (pH 7.6) in the presence or absence of S-(2-((1-iminoethyl)amino)ethyl)-2-methyl-L-cysteine, dihydrochloride (A) and the reaction was initiated by the addition of a reaction mixture (50  $\mu$ l) containing 50 mM Tris (pH 7.6), bovine serum albumin (2 mg/ml), thero-1,4-dimercapto-2,3-butanediol (DTT) (2 mM), calcium chloride (CaCl<sub>2</sub>) (4 mM), FAD (20  $\mu$ M), tetrahydrobiopterin (100  $\mu$ M), nicotinamide adenine dinucleotide phosphatase (NADPH) (0.4 mM) and L-arginine (60  $\mu$ M) containing L-(2,3-<sup>3</sup>H)-arginine (0.9  $\mu$ Ci). The final concentration of L-arginine in the assay was 30  $\mu$ M. For hecNOS or hncNOS, calmodulin was included at a final concentration of 40 - 100 nM. Following incubation at 37degreesC for 15 minutes, the reaction was terminated by the addition of a suspension (400  $\mu$ l) (1 part resin, 3 parts buffer) of Dowex SOW X-8 (RTM; cation exchange resin) in a stop buffer containing 10 mM (ethylenebis(oxyethylenenitrilo)) tetraacetic acid (EGTA), 4-(2-hydroxyethyl)-1-piperazineethanesulfonic acid (HEPES) (100 mM), pH 5.5 and L-citrulline (1 mM). After mixing the resin was allowed to settle and L-(2,3-<sup>3</sup>H)-citrulline formation was determined. The IC<sub>50</sub> value of (A) for hiNOS, hecNOS and hncNOS was 3.1, 77 and 15 respectively.

USE - For treating inflammation, other nitric oxide synthase mediated disorders e.g. pain, headaches or fever; different types of arthritis (e.g. rheumatoid arthritis, spondyloarthropathies, gouty arthritis, osteoarthritis, systemic lupus erythematosus, juvenile arthritis, acute rheumatic arthritis, enteropathic arthritis, neuropathic arthritis, psoriatic arthritis or pyogenic arthritis); asthma, bronchitis, menstrual cramps (e.g. dysmenorrhea), premature labor, tendinitis, bursitis, skin related conditions e.g. psoriasis, eczema, burns, sunburn, dermatitis, pancreatitis, hepatitis and from post operative inflammation including from ophthalmic surgery e.g. cataract surgery and refractive surgery.

Gastrointestinal conditions e.g. inflammatory bowel disease, Crohn's disease, gastritis, irritable bowel syndrome and ulcerative colitis; different types of cancer (e.g. colorectal, breast, lung, prostate, bladder, cervix, and skin cancers); inflammation and tissue damage in vascular diseases, migraine headaches, periarteritis nodosa, thyroiditis, aplastic anemia, Hodgkin's disease, sclerodoma, rheumatic fever, type I and II diabetes, neuromuscular junction disease including myasthenia gravis, white matter disease including multiple sclerosis, sarcoidosis, nephrotic syndrome, Behcet's syndrome, polymyositis, gingivitis, nephritis, hypersensitivity, swelling occurring after injury, myocardial ischemia etc.; ophthalmic diseases e.g. glaucoma, retinitis, retinopathies, uveitis, ocular photophobia and of inflammation and pain associated with acute injury to the eye tissue; pulmonary inflammation associated with viral infections and cystic fibrosisCentral nervous system disorders e.g. cortical dementias including Alzheimer's disease and central nervous system damage resulting from stroke, ischemia and trauma; allergic rhinitis, respiratory distress syndrome, endotoxin shock syndrome,

atherosclerosis, pain including postoperative pain, dental pain, muscular pain and pain resulting from cancer; cardiovascular ischemia, congestive heart failure, myocarditis, migraine, aortic **aneurysm**, reflux esophagitis, diarrhea, emphysema, bronchiectasis, hyperalgesia (allodynia), cerebral ischemia (both focal ischemia, thrombotic stroke and global ischemia (e.g. secondary to cardiac arrest)); central nervous system disorders mediated to NO e.g. Parkinson's disease; nerve degeneration or nerve necrosis in hypoxia, hypoglycemia and epilepsy; central nervous system trauma e.g. spinal cord and head injury; hyperbaric oxygen convulsions and toxicity, dementia e.g. pre-senile dementia and AIDS-related dementia; cachexia, Sydenham's chorea, Huntington's disease, Amyotrophic Lateral Sclerosis, Korsakoff's disease, imbecility relating to a cerebral vessel disorder, sleeping disorders, schizophrenia, depression or other symptoms associated with premenstrual syndrome (PMS), anxiety and septic shock; pain including somatogenic (either nociceptive or neuropathic), both acute and chronic.

Preservation of opiate tolerance in patients needing protected opiate analgesics and benzodiazepine tolerance in patients taking benzodiazepine and other addictive behavior e.g. nicotine addiction, alcoholism and eating disorders; drug withdrawal symptoms, symptoms of withdrawal from opiate, alcohol or tobacco addiction; preventing tissue damage; neoplasias, adenomatous polyps including familial adenomatous polyposis (FAP); angiogenesis related disorders or conditions e.g. tumor growth, metastasis and macular degeneration; and in inhibiting nitric oxide production from L-arginine including systemic hypotension associated with septic and/or toxic hemorrhagic shock induced by a wide variety of agents; therapy with cytokines e.g. tumor necrosis factor (TNF), interleukin (IL)-1 and (IL)-2; and as an adjuvant to short term immunosuppression in transplant therapy.

(I) is useful in the treatment of humans and in veterinary treatment of companion animals, exotic animals and farm animals e.g. rodents, horses, dogs and cats.

ADVANTAGE - The compound is very efficacious as an inducible nitric oxide synthase inhibitor and does not penetrate into certain non-target organs in test systems. The compound has significantly less harmful side effects. The compound is useful as an adjunct to radiation therapy to reduce side effects or enhance efficacy.

pp; 46 DwgNo 0/0

Derwent Class: A96; B05

International Patent Class (Main): C07C-323/25; C07C-323/58

International Patent Class (Additional): A61K-031/155; A61P-029/00

Abstract (Basic):

... muscular pain and pain resulting from cancer; cardiovascular ischemia, congestive heart failure, myocarditis, migraine, aortic **aneurysm**, reflux esophagitis, diarrhea, emphysema, bronchiectasis, hyperalgesia (allodynia), cerebral ischemia (both focal ischemia, thrombotic stroke and...

Technology Focus:

... counterion is a resin bound anion selected from polyacrylate or sulfonated poly(styrene divinylbenzene) resin crosslinked with divinylbenzene. The cationic counterion is a resin bound cation selected from a cationically functionalized...

Extension Abstract:

... R)-cysteine methyl ester hydrochloride (8.58 g), pivalaldehyde (8.61 g), and triethylamine (5.57 g) were refluxed in pentane (800 ml)



with...

6/7,K/2 (Item 2 from file: 350)  
DIALOG(R) File 350:Derwent WPIX  
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014189812

WPI Acc No: 2002-010509/200201

Biocompatible material useful in sealing vascular punctures, preventing post-operative adhesions, repairing tissue voids, embolizing arterio-venous malformation, or filling an **aneurysm**, comprises a mixture of protein and a polymer solution

Patent Assignee: NEO MEND INC (NEOM-N)

Inventor: CRUISE G M; HNOJEWYJ O; MILO C

Number of Countries: 093 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200166017	A1	20010913	WO 2001US5694	A	20010222	200201 B
AU 200138635	A	20010917	AU 200138635	A	20010222	200204

Priority Applications (No Type Date): US 2000520856 A 20000307

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
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WO 200166017	A1	E	63 A61B-017/00	
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Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200138635 A A61B-017/00 Based on patent WO 200166017

Abstract (Basic): WO 200166017 A1

NOVELTY - A biocompatible material comprises a mixture of a protein solution (A) and a polymer solution (B). (B) includes a derivative of a hydrophilic polymer with a functionality of at least 3. On mixing, (A) and (B) cross - link to form a non-liquid, three-dimensional network.

DETAILED DESCRIPTION - A biocompatible material comprises a mixture of a protein solution (A) and a polymer solution (B). (B) includes a derivative of a hydrophilic polymer with a functionality of at least 3. On mixing, (A) and (B) cross - link to form a non-liquid, three-dimensional network. The network degrades to a liquid form. The polymer includes a degradation control region to achieve a desired degradation period and/or a cross - linking group to achieve a desired cross - linking period.

An INDEPENDENT CLAIM is also included for a system (S1) comprising (A), (B) and instructions for forming a mixture of (A) and (B), and applying the mixture to seal a vascular puncture site, seal tissue from liquid leaks (preferably blood), seal solid or gas leaks, prevent post-operative adhesions, to repair a tissue void, augment tissue, to embolize an arterio-venous malformation, or to fill an **aneurysm**.

ACTIVITY - Vulnerary.

No supporting data given.

MECHANISM OF ACTION - None given in the source material.

USE - For use in systems to seal a vascular puncture site (degradation period (DP) of approximately 30 days, and cross - linking period (CP) of 15 - 60 seconds); seal tissue from liquid leaks (preferably blood) or solid leaks (DP of approximately 30 days and CP of less than 1 second); to repair a tissue void (DP of 30 - 60 days,

and CP of 5 seconds); to prevent post-operative adhesions (DP of 5 - 30 days, and CP of less than 1 second); to augment tissues (DP of approximately 1 year, and CP of approximately 120 seconds); to embolize an arterio-venous malformation (CP of 30 - 120 seconds); to fill an **aneurysm** or deliver a pharmaceutical (DP of approximately 1 year, and CP of 5 - 30 seconds); and to deliver cells (DP of approximately 1 week - 6 months, and CP of 5 - 30 seconds) (all claimed).

ADVANTAGE - The materials are cost effective. The material flows into the surface irregularities before solidification and enhances patient safety. Unlike the prior art, no emboli is formed if the biomaterial enters the bloodstream before solidification. The hydrogel formed from the material possesses a high adhesive and cohesive strength.

pp; 63 DwgNo 0/6

Derwent Class: A96; B04; B07; D16; D22; P31

International Patent Class (Main): A61B-017/00

... punctures, preventing post-operative adhesions, repairing tissue voids, embolizing arterio-venous malformation, or filling an **aneurysm**, comprises a mixture of protein and a polymer solution

Technology Focus:

... CG= cross - linking group...

...The degradation period (DP) is from 1 - more than 500 (preferably 5 - 30) days. The cross - linking period (CP) is from less than 1 second - greater than 10 hours (preferably less than...

...Preferred Components: The cross - linking group reacts with at least one thiol, amine or aldehyde. The cross - linking group is selected from active ester, epoxide, oxycarbonylimidazole, nitrophenyl carbonate, tresylate, mesylate, tosylate, isocyanate, vinyl...

...phosphate). The material additionally comprises a color changing agent. The agent changes its color when cross - linking of the mixture takes place. The agent undergoes color change in response to the change...

6/7,K/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014178613 \*\*Image available\*\*

WPI Acc No: 2001-662841/200176

Embolic composition used as liquid embolic agents, comprises macromers having polymeric backbone, and at least two pendant chains bearing crosslinkable groups

Patent Assignee: BIOcure INC (BIOC-N); ASFAW B T (ASFA-I); CHAOUK H (CHAO-I); GOODRICH S D (GOOD-I); GOUPIL D W (Goup-I); HOLLAND T (HOLL-I); LATINI L (LATI-I)

Inventor: ASFAW B T; CHAOUK H; GOODRICH S D; GOUPIL D W; HOLLAND T; LATINI L

Number of Countries: 094 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200168720	A1	20010920	WO 2001US7940	A	20010313	200176 B
US 20010036451	A1	20011101	US 2000188975	A	20000313	200176
			US 2000254697	A	20001211	
			US 2001804963	A	20010313	
US 20010051670	A1	20011213	US 2000188975	A	20000313	200204
			US 2001804925	A	20010313	
AU 200145660	A	20010924	AU 200145660	A	20010313	200208

Priority Applications (No Type Date): US 2000254697 P 20001211; US

2000188975 P 20000313; US 2001804963 A 20010313; US 2001804925 A 20010313  
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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WO 200168720	A1	E	40	C08F-008/00	
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Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP  
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT  
RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

US 20010036451	A1			A61K-031/765	Provisional application US 2000188975 Provisional application US 2000254697
US 20010051670	A1			A61F-002/00	Provisional application US 2000188975
AU 200145660	A			C08F-008/00	Based on patent WO 200168720

Abstract (Basic): WO 200168720 A1

NOVELTY - An embolic composition comprises macromers having polymeric backbone comprising units with 1,2-diol or 1,3-diol structure and at least two pendant chains bearing crosslinkable groups. The macromers can be crosslinked to form hydrogel.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method of embolization comprising providing the above-mentioned embolic composition, delivering the composition to the embolization site, and crosslinking the macromers to form hydrogel.

ACTIVITY - Cytostatic; Coagulant.

MECHANISM OF ACTION - None given.

USE - The embolic composition is used as liquid embolic agents for blocking and filling lumens and spaces. It is also for vascular occlusion for treatment of tumors or fibroids, occlusion of vascular malformations, such as arteriovenous malformations (AVM), fillers for **aneurysm** sacs, or endoleak sealants (claimed), occlusion of left appendages, arterial sealants, puncture sealants, or occlusion of other lumens like fallopian tube.

ADVANTAGE - The composition is highly versatile, and can be produced simply and efficiently because the starting material is inexpensive to obtain and prepare, and the macromers are stable. Thus, highly pure macromers can be used during crosslinking, without requiring aldehyde.

pp; 40 DwgNo 0/0

Derwent Class: A14; A25; A96; B07; D22; P34

International Patent Class (Main): A61F-002/00; A61K-031/765; C08F-008/00

International Patent Class (Additional): A61L-024/04; A61L-027/16;

A61L-027/34; A61L-027/52; A61L-029/04; A61L-029/08; A61L-031/04;

A61L-031/10; C08F-008/30; C08F-008/48; C08F-290/12; C08K-003/00

6/7, K/4 (Item 4 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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014154372 \*\*Image available\*\*

WPI Acc No: 2001-638591/200173

Stent and graft device for treating **aneurysmal** wall of bodily vessel, contains crosslinking solution pumped out through lumen and port toward proximal end of catheter

Patent Assignee: LESCHINSKY B (LESC-I)

Inventor: LESCHINSKY B

Number of Countries: 001 Number of Patents: 001

Patent Family:

*a duplicate. See inventor search section*

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20010029349	A1	20011011	US 96631337	A	19960412	200173 B
			US 98165333	A	19981001	
			US 2001880241	A	20010613	

Priority Applications (No Type Date): US 2001880241 A 20010613; US 96631337 A 19960412; US 98165333 A 19981001

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20010029349	A1		13	A61M-029/00	Cont of application US 96631337 CIP of application US 98165333

Abstract (Basic): US 20010029349 A1

NOVELTY - Stent and graft device has a catheter (31B) with a longitudinal axis and lumen(s). A distal end of the catheter is connected to a crosslinking solution. An infusion and vacuum port pumps out crosslinking solution through the lumen and port toward the proximal end of the catheter for crosslinking at least a portion of the vessel.

USE - Used for treating an **aneurysmal** wall of a bodily vessel (claimed).

ADVANTAGE - The device provides crosslinking solution that strengthens or toughens the **aneurysmal** wall by changing the nature of the wall, i.e. crosslinking the collagen in the wall.

DESCRIPTION OF DRAWING(S) - The figure is a longitudinal cross-sectional view of the catheter.

Catheter (31B)

Occlusion balloons (34, 35)

pp; 13 DwgNo 6/7

Derwent Class: B05; B07; P34

International Patent Class (Main): A61M-029/00

Stent and graft device for treating **aneurysmal** wall of bodily vessel, contains crosslinking solution pumped out through lumen and port toward proximal end of catheter

Technology Focus:

... Preferred components: The crosslinking solution is aldehyde solution, glutaraldehyde solution, or carbodiimide ...

... Preferred device: Occlusion balloons (34, 35) are provided for isolating the **aneurysm**. They comprise two or more balloon membranes.

File 350: Derwent WPIX 1963-2002/UD,UM &UP=200273

File 344: Chinese Patents Abs Aug 1985-2002/Oct

File 347: JAPIO Oct 1976-2002/Jul (Updated 021104)

File 371: French Patents 1961-2002/BOPI 200209

Set	Items	Description
S1	1280	<b>ANEURYSM?</b>
S2	120055	CROSSLINK??? OR CROSS()LINK???
S3	113975	ALDEHYDE? OR ACETALDEHYDE OR PARALDEHYDE OR ACROLEIN OR BENZALDEHYDE OR FORMALDEHYDE OR FORMOCRESOL?
S4	5040	FURALDEHYDE OR GLUTARAL OR GLYCERALDEHYDE OR GLYOXAL OR PHENYLGLYOXAL OR PYRUVALDEHYDE OR MALONDIALDEHYDE
S5	8199	THIOBARBITURIC()ACID OR O()PHTHALDEHYDE OR RETINALDEHYDE OR CARBODIIMIDE OR CYANAMIDE OR CYANOGENAMIDE
S6	6	S1 AND S2 AND S3: S5

TISSUE EQUIVALENTS

6/6/3 (Item 3 from file: 348)  
00562508  
Method for processing and preserving collagen-based tissues for  
transplantation.

6/6/4 (Item 1 from file: 349)  
00940903 \*\*Image available\*\*  
INHIBITORS OF INTEGRIN alpha"sub"vbeta"sub"6  
Publication Year: 2002

6/6/5 (Item 2 from file: 349)  
00806996 \*\*Image available\*\*  
METHODS AND COMPOSITIONS FOR REGULATING LYMPHOCYTE ACTIVITY  
Publication Year: 2001

6/6/7 (Item 4 from file: 349)  
00510629  
METHOD OF PROCESSING AND PRESERVING COLLAGEN BASED TISSUES  
Publication Year: 1999

6/6/8 (Item 5 from file: 349)  
00274329 \*\*Image available\*\*  
TISSUE EQUIVALENTS  
Publication Year: 1994

6/3,K/1 (Item 1 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
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01338132  
Embolization device  
Vorrichtung zur intravaskularen Embolisierung  
Dispositif d'embolisation  
PATENT ASSIGNEE:  
Collagen Matrix, Inc., (3144011), 509 Commerce Street, Franklin Lakes,  
New Jersey 07869, (US), (Applicant designated States: all)  
INVENTOR:  
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LEGAL REPRESENTATIVE:  
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PATENT (CC, No, Kind, Date): EP 1142535 A2 011010 (Basic)  
APPLICATION (CC, No, Date): EP 2001108754 010406;  
PRIORITY (CC, No, Date): US 196017 P 000407  
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;  
LU; MC; NL; PT; SE; TR  
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI  
INTERNATIONAL PATENT CLASS: A61B-017/12; A61L-031/04; A61L-031/12  
ABSTRACT WORD COUNT: 53  
NOTE: Figure number on first page: NONE  
LANGUAGE (Publication,Procedural,Application): English; English; English  
FULLTEXT AVAILABILITY:  
Available Text Language Update Word Count

CLAIMS A (English) 200141 528  
SPEC A (English) 200141 3971  
Total word count - document A 4499  
Total word count - document B 0  
Total word count - documents A + B 4499

...SPECIFICATION dried in air.

The collagen filaments is wound onto a Teflon(R) coated mandrel and crosslinked in a solution containing 0.05% glutaraldehyde to form a coil. The coil is thoroughly rinsed in distilled water to remove glutaraldehyde residues and dried in air. The thus obtained embolization device (103), containing 50-80% by...

...and 15 cm in length.

EXAMPLE 2. A method for using embolization device to occlude aneurysms

Arterial aneurysms are created in New Zealand White rabbits (4-5 kg) using a technique...

6/3,K/6 (Item 3 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00568739 \*\*Image available\*\*

EMBOLIZATION DEVICE

DISPOSITIF D'EMBOLISATION

Patent Applicant/Assignee:

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Inventor(s):

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BLEYER Mark W,

KOZMA Thomas G,

PATEL Umesh H,

Patent Applicant/Inventor:

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US (Residence), US (Nationality)

Legal Representative:

NESS Anton P (agent), P.O. Box 2269, Bloomington, IN 47402-2269, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200032112 A1 20000608 (WO 0032112)

Application: WO 99US28070 19991124 (PCT/WO US9928070)

Priority Application: US 98110434 19981201

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE

ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT

LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT

UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 10625

Fulltext Availability:

Detailed Description

Detailed Description

... synthetic materials, it can harbor microorganisms causing infection.

2 5 In the case of **aneurysm** treatment, an **aneurysm** is caused by a weakening of the vessel wall, which causes an invagination of the vessel wall. Blood flow is inhibited at the neck of the **aneurysm** due to turbulence caused by blood entering and exiting the lumen of the **aneurysm**. Current medical treatment of **aneurysms** include the use of metal coils, such as the FDA approved Gugliemi Detachable Coil, inserted into the lumen of the **aneurysm**. However, this platinum coil is relatively soft and does not provide a complete packing of the **aneurysm** lumen. It is not uncommon for the **aneurysm** to re-canalize, enlarge, and even rupture. Therefore, an **aneurysm** lumen filling device that packs the lumen sufficiently, is biocompatible, and promotes healing of the **aneurysm** would be well-received as reportedly approximately 28,000 patients suffer from intracranial **aneurysms**, of which 19,000 become severely disabled or die as a result of an **aneurysm** rupture. Furthermore, an embolization device that is soft enough to not puncture the vessel wall...

...Cohesive films of high tensile strength have been manufactured using collagen molecules or collagenbased materials. Aldehydes, however, have been generally utilized to cross-link the collagen molecules to produce films having high tensile strengths. With these types of materials, the aldehydes can leech out of the film, e.g. upon hydrolysis. Because such residues are cytotoxic...

File 348:EUROPEAN PATENTS 1978-2002/Nov W02

File 349:PCT FULLTEXT 1979-2002/UB=20021114,UT=20021107

Set	Items	Description
S1	3265	<b>ANEURYSM?</b>
S2	91713	CROSSLINK??? OR CROSS()LINK???
S3	100514	ALDEHYDE? OR ACETALDEHYDE OR PARALDEHYDE OR ACROLEIN OR BENZALDEHYDE OR FORMALDEHYDE OR FORMOCRESOL?
S4	10457	FURALDEHYDE OR GLUTARAL OR GLYCERALDEHYDE OR GLYOXAL OR PHENYLGLYOXAL OR PYRUVALDEHYDE OR MALONDIALDEHYDE
S5	26563	THIOBARBITURIC()ACID OR O()PHTHALDEHYDE OR RETINALDEHYDE OR CARBODIIMIDE OR CYANAMIDE OR CYANOGENAMIDE
S6	8	<b>S1(S) S2(S) S3:S5</b>